

RECEIVED
CENTRAL FAX CENTER

AUG 08 2005

Response Pursuant to 37 CFR 1.116
Expedited Procedure
Group Art Unit: 1743

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Bruno COLIN et al.

Serial Number: 09/936,077

Group Art Unit: 1743

Filing Date: December 3, 2001

Examiner: Ludlow, Jan M.

For: APPARATUS ENABLING LIQUID TRANSFER BY CAPILLARY ACTION THEREIN

REQUEST FOR RECONSIDERATION

MAIL STOP AF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

August 8, 2005

Sir:

In response to the Official Action mailed May 17, 2005, please reconsider this application in view of the following remarks. Claims 9 and 13-16 are pending.

Examiner Ludlow is thanked for the courtesies extended to the undersigned during a personal interview held July 27, 2005. The Examiner Interview Summary Record accurately reflects the substance of the interview.

The 35 U.S.C. § 102(e) rejection of claims 9 and 13-16 over U.S. Patent No. 6,582,662 to Kellogg et al. is respectfully traversed. The claimed apparatus includes at least one planar surface wherein at least two compartments are made and defined by

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

a partition, the compartments creating a space which makes it possible to displace at least two liquid samples independently of one another. A feature of the claimed apparatus is that the compartments comprise at least two different types of grooves: at least one deep groove capable of partitioning samples from one another, the depth and width of the deep groove in relation to the partition being such that capillary action of a sample is not enabled, and at least two shallow grooves, each of the shallow grooves being capable of receiving one of the samples, respectively, the depth of the shallow grooves in relation to the partition being such that capillary action of the sample is enabled. A second feature of the claimed apparatus is that each shallow groove is adjacent to the deep groove along the entire length of the deep groove.

Kellogg et al. fails to disclose these features of the claimed apparatus. More particularly, Kellogg et al. fails to disclose an apparatus having a deep groove and at least two shallow grooves adjacent to the deep groove along the entire length of the deep groove.

The Patent Office cites capillary junction 311, illustrated in Fig. 5 of Kellogg et al., as satisfying the "deep groove" feature

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

of the claimed apparatus. However, one of ordinary skill in the art would not consider capillary junction 311 as a groove for the reasons discussed below.

1. Capillary junction 311 Is Not A "Groove"

The dictionary defines "groove" as a "long, narrow furrow or channel". Websters II New Riverside University Dictionary at 550 (Riverside Pub. Co. 1984) (relevant page enclosed). Figs. 1 and 2 of this application illustrates two shallow grooves 16, each adjacent to a deep groove 6 along the entire length of the deep groove:

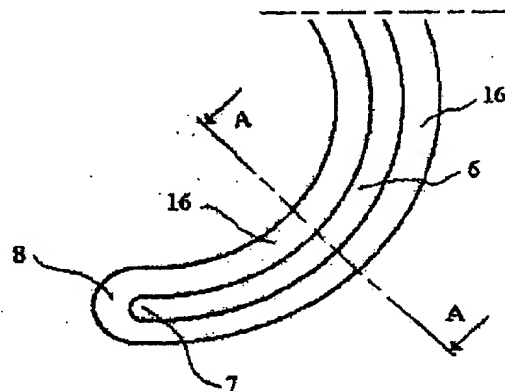


Fig. 1

Section A-A

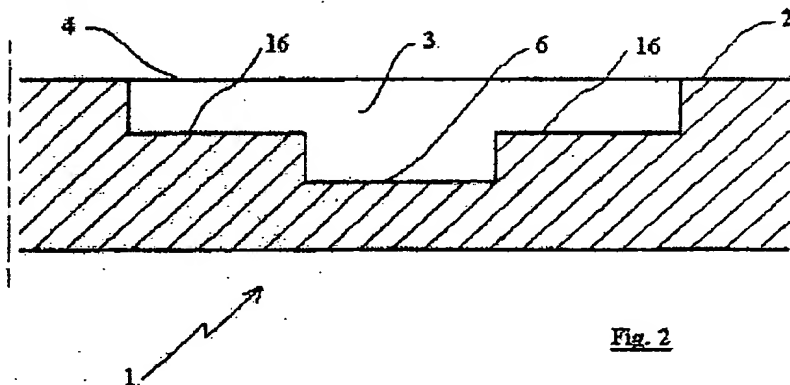


Fig. 2

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

Kellogg et al. does not define its capillary junctions as "grooves". Instead, the reference functionally defines "capillary junction" to mean a region in a capillary or other flow path where surface or capillary forces are exploited to retard or promote fluid flow. A capillary junction is provided as a pocket, depression or chamber in a hydrophillic substrate that has a greater depth (vertically within the platform layer) and/or a greater width (horizontally within the platform layer) than the fluidics component (such as a microchannel) to which it is fluidly connected. See Kellogg et al., Col. 8, lines 53-60.

Figure 5 of Kellogg et al. illustrates its capillary junction 311, and is reproduced below:

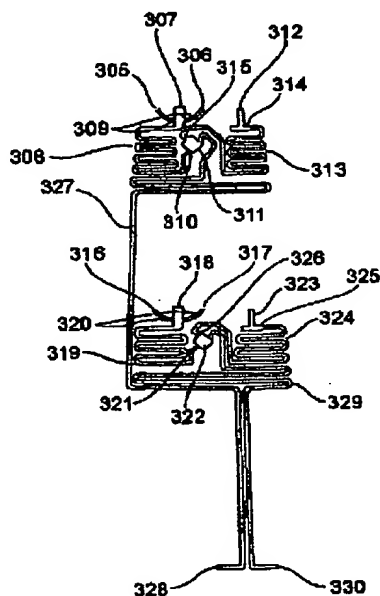


Fig. 5

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

One of ordinary skill in this art has no reason to view capillary junction 311 as a groove, i.e., a long, narrow furrow or channel. Instead, Kellogg et al. states "Capillary junction 311 is larger in the lateral or vertical direction or both than the capillary junction at 310" (Col. 20, lines 3-5), and that it is designed so that whichever fluid flows first from mixing microchannels 308 and 313 will wet the exit capillary of the other fluid (capillary junctions 310 and 315) and thereby induce it to flow into microchannel 327 (Col. 27, lines 3-6).

**2. Capillary Channels 308 and 313 Are Not
"Adjacent" Junction 311 Along the Entire
Length of Capillary Junction 311**

Kellogg et al. also fails to disclose another feature of the claimed apparatus: at least two shallow grooves adjacent¹ to a deep groove along the entire length of the deep groove.

Fig. 5 clearly shows capillary channel 308 is fluidly connected to capillary junction 311 via capillary junction 310. Accordingly, capillary junction 310, not capillary channel 308, is "adjacent" capillary junction 311. Moreover, capillary channel 308, via capillary junction 308, appears to connect with capillary

¹The dictionary defines "adjacent" as 1. close to: nearby and 2. next to: Adjoining". Websters II New Riverside University Dictionary at 78 (Riverside Pub. Co. 1984) (relevant page enclosed).

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

junction 311 at approximately a 90° angle. Thus capillary channel 308 is not "adjacent" (next to) capillary junction 311 along the entire side (i.e., length) of capillary junction 311.

Similarly, Fig. 5 clearly shows capillary channel 313 is fluidly connected to capillary junction 311 via capillary junction 315. Accordingly, capillary junction 315, not capillary channel 313, is "adjacent" capillary junction 311. Moreover, capillary channel 313, via capillary junction 315, appears to connect with capillary junction 311 at approximately a 90° angle. Thus capillary channel 313 is not "adjacent" (next to) capillary junction 311 along its entire length.

3. Capillary Junction 311 Has A Different Function

The function of the claimed deep groove is to permit a liquid to be displaced without entering into contact with a second liquid displaced in a shallow groove. In stark contrast, the function of capillary junction 311 is to receive liquids from capillary channels 308 and 313, for the purpose of displacing both of them into a single capillary 327. See Kellogg et al., Fig. 5, Col. 19, line 37 to Col. 21, line 10, and Col. 27, lines 3-6. The function of the microfluidic channels disclosed by Kellogg et al. is thus totally different than the function of the deep and shallow grooves of the claimed apparatus.

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

In short, Kellogg et al. utterly fails to disclose or suggest a deep groove having two shallow grooves adjacent the long groove along its entire length. One of ordinary skill in the art would not consider capillary junction 311 to be a long, narrow channel, or capillary channels 308 and 313 to be next to capillary junction 311 for its entire length. Reconsideration and withdrawal of the anticipation rejection of claims 9 and 13-16 are earnestly requested.

It is believed this application is in condition for allowance. Reconsideration and withdrawal of the anticipation rejection of claims 9 and 13-16, and issuance of a Notice of Allowance directed to those claims, are earnestly requested. The Examiner is urged to telephone the undersigned should she believe any further action is required for allowance.

A Notice of Appeal and a Pre-Appeal Brief Request for Review are attached.

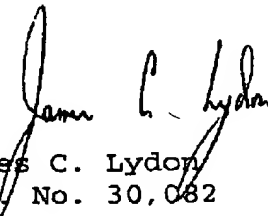
It is not believed any fee is required for entry and consideration of this Request for Reconsideration. Nevertheless,

U.S. Appln. S.N. 09/936,077
REQUEST FOR RECONSIDERATION

PATENT

the Commissioner is requested to charge our Deposit Account No. 50-1258 in the amount of any such required fee.

Respectfully submitted,



James C. Lydon
Reg. No. 30,082

Atty Docket No.: BONN-060
100 Daingerfield Road
Suite 100
Alexandria, VA 22314
Telephone: (703) 838-0445
Facsimile: (703) 838-0447

Enclosures:

Websters II New Riverside University Dictionary at 550
(Riverside Pub. Co. 1984)
Websters II New Riverside University Dictionary at 78
(Riverside Pub. Co. 1984)
Notice of Appeal
Pre-Appeal Brief Request for Review